

b) a CMP-Neu5Ac synthetase that catalyzes the formation of CMP-Neu5Ac from Neu5Ac and CTP.

38. (New) The nucleic acid of claim 37, wherein the  $\alpha$ -2,3-sialyltransferase and the CMP-Neu5Ac synthetase are joined by a peptide linker.

39. (New) The nucleic acid of claim 37, wherein the nucleic acid further comprises a polynucleotide that encodes a signal sequence which is linked to the fusion polypeptide

40. (New) The nucleic acid of claim 37, wherein the nucleic acid further comprises a polynucleotide that encodes a molecular tag which is linked to the fusion polypeptide.

DI 41. (New) The nucleic acid of claim 37, wherein the  $\alpha$ -2,3-sialyltransferase is a bacterial enzyme.

42. (New) The nucleic acid of claim 41, wherein the  $\alpha$ -2,3-sialyltransferase is a *Neisseria* enzyme.

43. (New) The nucleic acid of claim 37, wherein the CMP-Neu5Ac synthetase is a *Neisseria* enzyme.

44. (New) An expression vector which comprises the nucleic acid of claim 37.

45. (New) A host cell which comprises the expression vector of claim 45.

46. (New) A method of producing a fusion polypeptide, the method comprising:

- a) introducing into a host cell the expression vector of claim 45, under conditions where the host cell is transformed with the expression vector; and
- b) culturing the transformed host cell under conditions where the fusion polypeptide is expressed in the transformed host cell.

47. (New) The method of claim 47 further comprising a step of purifying the expressed fusion polypeptide.

48. (New) The method of claim 47 further comprising a step of permeabilizing the host cell expressing the fusion polypeptide.

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REMARKS

With this amendment, Claims 1-3, 5-27, and 33-48 are pending. Claims 13-22 and 36 are withdrawn from consideration as being drawn to nonelected inventions. New claims 37-48 are added. For convenience, the Examiner's rejections are addressed in the order presented in the August 26, 2002 Office Action. Appendix A provides the version with markings to show changes made to the claims. Also for the Examiner's convenience, Appendix B is included listing all pending and amended claims.

**I. Status of the claims**

New claims 37-48 are added. The claims are directed to fusion proteins comprising a CMP-Neu5Ac synthetase and an  $\alpha$ -2,3-sialyltransferase. Support for the claims are found throughout the specification, at for example page 14, lines 14-38; page 17, lines 3-9; page 22, line 28 continuing to page 23, line 9; page 26, line 26 continuing to page 27, line 9; and Example 1, pages 38-49. Support is also found in original claims 8, 9, 11, 12, 26, 27, and 33-35. The claims add no new matter.